

Mineral Industry Surveys

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NICKEL IN MAY 2000

In May, reported domestic nickel consumption on a daily average basis was only slightly less than that of April, according to the U.S. Geological Survey. Average daily consumption by the stainless steel industry in May was 15% less than the April average of 116 metric tons (t). The decrease for stainless steel was partially offset by increased production of cupro-nickel alloys, cupro-nickel strip for coin blanks, and nickel-base corrosion-resistant alloys. Daily consumption by alloy steel producers—a considerably smaller tonnage than that of stainless steel—decreased significantly. Consumption of elemental nickel to make nickel-base corrosion-resistant alloys increased by 21%. Sales to plating companies averaged 51 metric tons per day (t/d), up 28% from the revised April sales figure of 40 t/d. Percentages reported in this paragraph may not be verifiable owing to concealment of individual company proprietary data.

On May 31, U.S. consumer stocks of cathode, pellets, briquets, and powder totaled 2,960 t—21% more than the 2,440 t (revised) for April 30, but 48% less than the high of 5,690 t reached at the end of January 1999. Stocks in London Metal Exchange (LME) warehouses worldwide declined for the sixth consecutive month. LME stocks decreased 18% during May to 22,254 t and were down 53% from 46,962 t at yearend 1999. Preliminary data collected by the International Nickel Study Group indicated that, at the end of April 2000, world nickel producers (excluding those in Austria, China, the former Yugoslavia, and the Ural area of Russia) had approximately 92,600 t of Ni in primary products in stock, of which 70,000 t were Class I materials. Class I materials are refined products with a nickel content of 99% or greater (electrolytic cathode, pellets, briquets, rondelles, powder, etc.). Class II materials include ferronickel, nickel oxide sinter, and East Asian utility nickel—products with a nickel content less than 99%.

Trade data for May 2000 will appear in a subsequent issue.

Advanced castings and forgings industry continues to consolidate

Castings industry overview.—The U.S. castings industry shipped an estimated 1.4 million tons of steel castings and 2.7

million tons of nonferrous castings in 1998. Iron castings were about 10.8 million tons. The U.S. foundry industry has consolidated dramatically over the last 20 years. In 1982, the United States had approximately 465 steel foundries and 1,400 iron foundries. In 1988, there were 400 steel foundries and only 700 iron foundries (Atchison Casting Corp., 2000, p. 6-8). At the same time, capacity utilization has increased from 45% to 85%. Cast components are becoming increasingly complex, especially those going to the aerospace and power generation sectors. In addition, the chemical composition and metallurgical characteristics of the alloys are becoming increasingly sophisticated.

Alcoa acquires Howmet.—On June 20, Alcoa Inc. completed its acquisition of Howmet International Inc. Howmet is the largest manufacturer of investment cast turbine engine components in the world and a significant consumer of nickel. Many of the advanced superalloy castings produced by the company are incorporated into jet aircraft engines or industrial gas turbines. Howmet also produces aluminum investment castings for the commercial aerospace and defense electronics industries (Alcoa, 2000c). The precision casting manufacturer is headquartered in Greenwich, CT. Howmet may be able to help Alcoa expand its business in the automobile engine industry. Alcoa is the world's largest producer of primary aluminum, fabricated aluminum, and alumina. Alcoa is active in all major segments of the aluminum industry, including mining, smelting, refining, fabrication, and recycling.

On April 18, Alcoa made a cash tender offer of \$20 per share to Howmet shareholders after direct negotiations with Howmet's Board of Directors stalled. At that time, about 15.4 million shares of Howmet common stock were outstanding. On June 2, Alcoa raised its offer to \$21 per share and ended up paying about \$324 million for the stock (Alcoa Inc., 2000a).

The Howmet acquisition came less than a month after Alcoa acquired Howmet's parent—Cordant Technologies, Inc. of Salt Lake City, UT. Alcoa and Cordant signed a definitive agreement on March 14, 2000. Alcoa agreed to acquire all outstanding shares of Cordant for \$57 per share in cash. The acquisition was completed on May 25 after Alcoa received clearance from anti-

trust authorities in the European Union and the United States (Alcoa Inc., 2000b). Cordant owned 84.7% of Howmet's outstanding shares prior to the May transaction.. Cordant's other business groups included Huck Fasteners, a designer and manufacturer of high-performance fasteners, and Thiokol Propulsions, a supplier of solid rocket propulsion systems. The Cordant transaction was valued at about \$2.9 billion (Alcoa Inc. and Cordant Technologies, Inc., 2000).

Precision Castparts acquires Wyman-Gordon.—On May 17, 1999, Precision Castparts Corp. (PCC) of Portland, OR, offered to buy all of the outstanding shares of Wyman-Gordon Co. for \$20 per share. The tender closed in November 1999 and the merger was finalized on January 12, 2000. The cash tender was valued at \$731 million (Precision Castparts Corp., 2000, p. 1-5, 25-28). Wyman-Gordon is a leading producer of forgings for the aerospace, industrial gas turbine (IGT), and energy markets. Like Howmet, PCC manufactures complex metal components for the aerospace and power generation sector. Many of these components contain significant nickel. The Oregon-based company also makes investment castings for general industrial, automotive, and medical applications. The acquisition offered considerable synergies, cost reduction, and manufacturing improvements. PCC now has a much stronger presence in the booming IGT market.

The Wyman-Gordon acquisition was subjected to a rigorous

review by the Federal Trade Commission (FTC). To gain FTC approval and alleviate anti-trust concerns, PCC agreed to divest itself of two key Wyman-Gordon operations—(1) the Groton, CT-operation producing large castings, and (2) the titanium casting operation at Albany, OR. As part of the settlement, PCC assumed \$150 million worth of 8%-notes issued by Wyman-Gordon. In exchange, Wyman-Gordon turned over \$97 million in cash, for a net assumption of \$53 million. The \$731 million cash tender and \$53 million assumption brought the total cost of the acquisition to \$784 million.

References Cited

- Alcoa Inc., 2000a, Alcoa and Howmet enter into merger agreement: Pittsburgh, PA, Alcoa Inc. press release, June 2, 1 p.
- 2000b, Alcoa completes acquisition of Cordant: Pittsburgh, PA, Alcoa Inc. press release, May 25, 1 p.
- 2000c, Alcoa completes acquisition of Howmet: Pittsburgh, PA, Alcoa Inc. press release, June 20, 1 p.
- Alcoa Inc. and Cordant Technologies, Inc., 2000, Alcoa to acquire Cordant Technologies: Pittsburgh, PA, and Salt Lake City, UT, joint press release, March 14, 1 p.
- Atchison Casting Corp., 2000, Form 10-K for the fiscal year ended June 30, 1999: Atchison, KS, Atchison Casting Corp., 21 p.
- Precision Castparts Corp., 2000, Annual report—1999: Portland, OR, Precision Castparts Corp., 44 p.

TABLE 1
CONSUMPTION OF NICKEL (EXCLUSIVE OF SCRAP), BY FORM AND USE 1/

(Metric tons, nickel content)

Period	Cathodes, pellets, briquets, and powder	Ferronickel	Oxide-sinter, salts, and other forms	Total	Total year to date
1999:					
May	8,120 r/	1,150	693	9,960 r/	44,200
June	8,370 r/	1,200	693 r/	10,300	54,500 r/
July	7,540	1,150	479	9,180 r/	63,700 r/
August	7,230 r/	1,000	347 r/	8,570	72,200
September	7,300 r/	1,490	319 r/	9,110 r/	81,300
October	6,990 r/	1,170	300 r/	8,450 r/	89,800 r/
November	6,910 r/	1,210	455 r/	8,580 r/	98,400 r/
December	7,290 r/	1,060	869 r/	9,220 r/	108,000 r/
January-December	88,400 r/	12,600	6,640 r/	108,000 r/	XX
2000:					
January	6,960 r/	1,380	566	8,900	8,900
February	7,660	1,350	435	9,450 r/	18,400 r/
March	7,890 r/	1,360	761 r/	10,000 r/	28,400
April	7,780	1,320	348	9,450 r/	37,800 r/
May:					
Steel:					
Stainless and heat resisting	1,630	1,020	W	2,650	17,600
Alloy (excludes stainless)	366	W	W	366	2,400
Superalloys	1,460	--	W	1,460	7,360
Copper-nickel alloys	W	W	--	W	W
Electric, magnetic, and expansion alloys	47	--	--	47	203
Other nickel & nickel alloys	W	W	W	W	W
Cast iron	W	--	--	W	W
Electroplating (sales to platers)	1,490	--	W	1,490	6,120
Chemical and chemical uses	W	--	--	W	W
Other uses	3,070	124	527	3,720	13,800
Total reported	8,060 2/	1,140	527	9,730	47,500
Total all companies (calc) 3/	XX	XX	XX	14,500	70,700
2000: January-May	38,300	6,550	2,640	47,500	XX
1999: January-May	36,700	4,290	3,170	44,200	XX

r/ Revised. W Withheld to avoid disclosing company proprietary data; included in "Other uses" category. XX Not applicable. -- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Of consumption, 6,920 metric tons were consumed as cathodes and pellets, the remainder as briquets and powder.

3/ Figures represent calculated apparent consumption; based on the revised proportion of reported primary consumption (67.27%) to apparent primary consumption for 1998.

TABLE 2
ENDING STOCKS OF NICKEL (EXCLUSIVE OF SCRAP) HELD BY CONSUMERS,
BY FORM AND USE 1/ 2/

(Metric tons, nickel content)

Period	Cathodes, pellets, briquets, and powder	Ferronickel	Oxide-sinter, salts, and other forms	Total
1999:				
May	3,560 r/	147 r/	351	4,050 r/
June	3,790 r/	110	312	4,210 r/
July	3,580 r/	170	263	4,010 r/
August	2,970 r/	315	269	3,550 r/
September	3,120 r/	202	447	3,770 r/
October	2,890 r/	320	494 r/	3,700 r/
November	3,500 r/	441	584 r/	4,520 r/
December	2,630 r/	416	397 r/	3,450 r/
2000:				
January	2,440 r/	317	352 r/	3,110 r/
February	2,400 r/	224	371 r/	2,990 r/
March	2,330 r/	252	250 r/	2,830 r/
April	2,440 r/	393	194	3,030 r/
May:				
Steel (stainless, heat resisting and alloy)	1,100	(3/)	(3/)	1,100
Nonferrous alloys 4/	1,810	(3/)	(3/)	1,810
Foundry (cast irons)	(3/)	--	(3/)	(3/)
Chemical (catalysts, ceramics, plating salts, etc.) and unspecified uses	52	722	226	1,000
Total	2,960	722	226	3,910

r/ Revised. -- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Stocks held by companies that consume nickel in more than one end-use category are credited to the major category. Stocks are subject to revisions owing to inventory adjustment.

3/ Included in the "Chemical and unspecified uses" category.

4/ Includes superalloys, nickel-copper and copper-nickel alloys, permanent magnet alloys, and other nickel alloys.

TABLE 3
CONSUMPTION AND ENDING STOCKS OF PURCHASED SECONDARY NICKEL, BY USE 1/

(Metric tons, nickel content)

Period	Consumption			Stocks		
	Ferrous scrap 2/	Nonferrous scrap 3/	Total scrap	Ferrous scrap 2/	Nonferrous scrap 3/	Total scrap
1999:						
May	4,340	706	5,050	3,170	171	3,350
June	4,600	1,330	5,920	2,770	217	2,980
July	3,720	1,080	4,800	2,570	176	2,750
August	4,100	1,090	5,190	2,520	165	2,680
September	4,940	1,040	5,970	2,880	158	3,030
October	4,750	1,270	6,020	2,690	154	2,840
November	5,840	1,160	7,010	2,780	147	2,930
December	5,090	878	5,960	3,670	693	4,360
January-December	53,200	12,300 r/	65,500 r/	XX	XX	XX
2000:						
January	5,750	1,270	7,020	3,430	657	4,090
February	5,490	1,250	6,740	3,680	663	4,340
March	5,800 r/	1,140	6,940 r/	3,420	668	4,090
April	5,490 r/	897	6,390 r/	3,990	673	4,660
May	5,680	936	6,610	3,880	657	4,540
2000: January-May	28,200	5,490	33,700	XX	XX	XX
1999: January-May	20,100	4,070	24,200	XX	XX	XX

r/ Revised. XX Not applicable.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Nickel content is calculated from an average nickel content and the reported gross weight of scrap.

3/ Combined consumption and stocks of aluminum-base, copper-base, and nickel-base scrap.

TABLE 4
U.S. IMPORTS FOR CONSUMPTION OF NICKEL, BY COUNTRY 1/

(Metric tons, nickel content 2/)

Period and country of origin	Cathodes, pellets, and briquets	Powder and flakes	Ferro- nickel	Metal- lurgical- grade oxide	Waste and scrap	Stainless steel scrap	Chemicals	Total 3/	Total year to date 4/	Wrought nickel
1999:										
April	6,230	769	1,150	306	414	181	302	9,350	45,400	103
May	9,860	575	860	231	428	303	190	12,500	57,900	80
June	13,000	1,080	1,550	399	260	415	241	16,900	74,800	58
July	5,890	939	1,730	--	330	243	232	9,360	84,100	105
August	9,280	790	1,310	285	316	263	161	12,400	96,500	110
September	13,800	818	1,240	243	192	270	270	16,800	113,000	120
October	6,100	748	1,190	224	526	335	238	9,370	123,000	106
November	10,400	741	813	269	685	1,800	219	14,900	138,000	124
December	7,740	511	996	459	428	603	296	11,000	149,000	95
January-December	109,000	9,380	14,300	3,270	4,520	4,960	2,810	149,000	XX	1,090
2000:										
January	10,900	998	1,400	323	521	501	227	14,900	14,900	53
February	11,500	922	1,150	335	399	617	328	15,200	30,100	109
March	13,300	1,190	1,580	20	839	680	362	18,000	48,100	96
April:										
Australia	587	662	--	7	--	--	--	1,260	5,140	--
Brazil	320	--	--	--	--	6	--	326	1,240	--
Canada	4,660	606	--	131	503	228	9	6,130	24,600	--
Colombia	--	--	101	--	--	2	--	103	689	--
Dominican Republic	--	--	557	--	--	--	--	557	2,910	--
Finland	141	67	--	--	--	--	30	238	1,880	--
France	252	--	--	--	99	2	14	367	1,390	9
Germany	--	8	--	--	82	--	36	126	539	13
Japan	--	2	--	(5/)	2	2	84	90	321	11
Mexico	--	--	--	--	31	170	1	202	820	--
New Caledonia	--	--	441	--	--	--	--	441	1,390	--
Norway	761	--	--	--	6	--	--	767	6,480	--
Russia	2,800	108	--	--	--	--	--	2,910	10,700	--
South Africa	--	--	--	--	--	--	--	--	161	--
United Kingdom	--	17	--	--	106	--	2	125	2,000	8
Zimbabwe	18	--	--	--	--	--	--	18	307	--
Other	478	13	--	--	95	12	112	710	1,900	24
Total	10,000	1,480	1,100	138	924	422	288	14,400	62,500	65
2000: January-April	45,700	4,590	5,230	816	2,680	2,220	1,210	62,500	XX	323
1999: January-April	33,400	3,180	4,660	1,160	1,350	729	957	45,400	XX	286

XX Not applicable. -- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ The nickel contents are assumed to be as follows: metallurgical-grade oxide (77%), waste and scrap (50%), and stainless steel scrap (7.5%). The chemical category includes chlorides (25%), sulfates (22%), and other salts (22%), supported catalysts (22%), and oxide, sesquioxide and hydroxide (65%).

3/ Excludes wrought nickel.

4/ May include revisions for prior months.

5/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 5
U.S. EXPORTS OF NICKEL, BY COUNTRY 1/

(Metric tons, nickel content 2/)

Period and country of destination	Cathodes, pellets, and briquets	Powder and flakes	Ferro- nickel	Metal- lurgical- grade oxide	Waste and scrap	Stainless steel scrap	Chemicals	Total 3/	Total year to date	Wrought nickel
1999:										
April	15	69	1	161	989	2,070	334	3,640	11,600	77
May	78	44	--	102	920	1,600	523	3,270	14,800	121
June	54	85	2	94	979	1,950	200	3,360	18,200	59
July	65	76	6	105	725	1,310	363	2,650	20,800	52
August	142	82	9	181	945	1,280	256	2,900	23,700	69
September	74	60	30	230	1,230	1,830	220	3,670	27,400	52
October	105	89	--	57	1,230	2,290	461	4,230	31,600	58
November	74	95	--	108	1,340	1,170	229	3,020	34,700	98
December	85	65	9	60	1,230	2,330	444	4,220	38,900	65
January-December	832	908	61	1,470	12,000	19,500	4,160	38,900	XX	922
2000:										
January	358	87	11	128	1,130	2,040	136	3,880	3,880	86
February	255	83	15	100	1,140	1,230	234	3,050	6,930	39
March	113	130	5	82	1,300	4,160	200	5,990	12,900	77
April:										
Australia	--	(4/)	--	--	--	--	1	1	2	27
Belgium	--	--	--	--	77	61	2	140	361	1
Canada	3	31	--	150	1,010	304	53	1,550	5,690	23
Germany	--	10	--	(4/)	16	--	25	51	211	7
India	--	--	--	--	9	22	5	36	78	--
Italy	--	2	--	--	--	--	--	2	9	(4/)
Japan	--	1	--	(4/)	60	431	143	635	2,060	(4/)
Korea, Republic of	6	3	--	--	64	674	1	748	4,270	(4/)
Mexico	30	2	--	--	--	2	5	39	405	12
Netherlands	--	(4/)	--	--	--	--	1	1	41	--
South Africa	--	--	--	--	--	--	--	--	303	--
Spain	--	--	--	--	--	--	--	--	392	--
Sweden	--	--	--	--	--	--	4	4	72	--
Taiwan	--	--	--	--	2	818	18	838	1,980	(4/)
United Kingdom	1	(4/)	--	--	9	2	4	16	31	12
Other	3	19	--	(4/)	86	91	90	289	1,350	21
Total	43	68	--	150	1,330	2,410	352	4,350	17,300	103
2000: January-April	768	369	30	461	4,880	9,830	922	17,300	XX	305
1999: January-April	154	313	4	535	3,380	5,720	1,470	11,600	XX	347

XX Not applicable. -- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ The nickel contents are assumed to be as follows: metallurgical-grade oxide (77%), waste and scrap (50%), and stainless steel scrap (7.5%). The chemical category includes chlorides (25%), sulfates (22%), and other salts (22%), supported catalysts (22%), and oxide, sesquioxide and hydroxide (65%).

3/ Excludes wrought nickel.

4/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF NICKEL ALLOYS, BY COUNTRY 1/

(Metric tons, gross weight)

Period and country of origin	Unwrought alloyed ingot	Bars, rods, and profiles	Wire	Plates and sheets	Foil	Tubes and pipes	Other alloyed articles	Total	Total year to date
1999:									
April	265	222	344	137	2	33	72	1,080	4,600
May	248	174	348	242	(2/)	244	75	1,330	5,920
June	248	162	373	298	1	74	52	1,210	7,130
July	209	180	341	201	1	94	63	1,090	8,220
August	172	124	332	268	(2/)	65	46	1,010	9,220
September	128	158	246	192	10	35	109	878	10,100
October	78 r/	137	336	281	(2/)	85	95	1,010 r/	11,100
November	141	151	347	146	10	200	70	1,070	12,200
December	145	158	391	224	7	105	73	1,100	13,300
January-December	2,360 r/	2,220	4,100	2,530	34	1,230	818 r/	13,300	XX
2000:									
January	167	156	348	180	1	77	145	1,080	1,080
February	160	116	336	235	10	92	157	1,110	2,180
March	279	224	441	334	30	221	83	1,610	3,790
April:									
Australia	43	--	--	--	--	--	--	43	213
Belgium	--	--	4	1	--	(2/)	(2/)	5	37
Canada	126	--	6	--	--	2	3	137	219
France	--	3	48	15	16	12	(2/)	94	597
Germany	--	38	105	285	--	34	9	471	1,800
Italy	--	144	8	--	--	7	(2/)	159	349
Japan	18	--	1	4	--	4	3	30	187
Mexico	--	--	--	--	--	62	44	106	284
Netherlands	156	--	--	(2/)	--	--	15	171	241
South Africa	39	--	--	--	--	--	--	39	160
Sweden	--	2	159	4	--	10	--	175	638
United Kingdom	110	37	2	8	(2/)	16	2	175	458
Other	63	--	19	2	--	4	30	118	330
Total	555	224	352	319	16	151	106	1,720	5,510
2000: January-April	1,160	719	1,480	1,070	58	543	490	5,510	XX
1999: January-April	992	974	1,390	674	5	325	237	4,600	XX

r/ Revised. XX Not applicable. -- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 7
U.S. EXPORTS OF NICKEL ALLOYS, BY COUNTRY 1/

(Metric tons, gross weight)

Period and country of destination	Unwrought alloyed ingot	Bars, rods, and profiles	Wire	Plates and sheets	Foil	Tubes and pipes	Other alloyed articles	Total	Total year to date
1999:									
April	910	349	168	688	72	72	266	2,530	10,100
May	545	396	181	614	3	63	193	2,000	12,100
June	682	363	225	620	5	63	272	2,230	14,300
July	702	330	192	486	4	46	483	2,240	16,500
August	643	184	322	570	7	53	273	2,050	18,600
September	806	363	139	542	6	54	164	2,070	20,700
October	927	340	145	538	5	82	204	2,240	22,900
November	595	360	193	679	19	83	352	2,280	25,200
December	771	371	148	546	16	58	215	2,130	27,300
January-December	9,140	4,190	2,180	7,270	161	828	3,550	27,300	XX
2000:									
January	666	323	161	886	1	81	158	2,280	2,280
February	448	479	218	529	16	80	284	2,050	4,330
March	1,090	495	167	536	69	132	370	2,860	7,190
April:									
Australia	--	--	--	1	--	6	(2/)	7	59
Belgium	2	20	7	7	--	--	(2/)	36	452
Canada	26	114	22	35	7	38	37	279	1,350
France	175	32	--	25	(2/)	1	30	263	2,090
Germany	(2/)	9	1	47	(2/)	3	7	69	358
India	--	--	--	--	--	--	(2/)	(2/)	5
Ireland	--	(2/)	18	--	--	--	(2/)	18	48
Italy	122	(2/)	1	70	11	3	(2/)	207	685
Japan	--	5	2	131	--	1	2	139	332
Korea, Republic of	(2/)	1	7	69	1	(2/)	16	96	299
Mexico	10	14	65	24	19	3	30	165	474
Netherlands	--	--	--	2	--	--	4	6	31
Singapore	1	6	17	9	(2/)	2	1	36	187
Spain	(2/)	--	--	--	--	(2/)	--	(2/)	13
Sweden	--	1	--	9	12	--	--	22	70
Switzerland	22	1	--	36	--	3	2	64	160
Taiwan	1	1	1	4	--	1	(2/)	8	85
United Kingdom	86	61	30	261	(2/)	9	53	500	1,770
Other	4	56	3	22	(2/)	4	139	228	859
Total	449	321	174	752	50	74	321	2,140	9,330
2000: January-April	2,650	1,620	720	2,700	137	367	1,130	9,330	XX
1999: January-April	3,470	1,480	630	2,680	97	327	1,390	10,100	XX

XX Not applicable. -- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Less than 1/2 unit.

Source: Bureau of the Census.

TABLE 8
NICKEL CONSUMPTION IN CAST AND WROUGHT PRODUCTS

	Percent	
	Wrought	Cast
May 2000:		
Stainless and heat resisting steels	78	22
Alloy steels	100	(1/)
Superalloys	83	17
Copper-nickel alloys	99	1
Other nickel-base alloys	100	(1/)

1/ Less than 1/2 unit.

TABLE 9
NICKEL PRICES

Date	Cathode NY Dealer \$/lb.	LME Cash \$/t	LME Cash \$/lb.	18/8 Stainless steel scrap Pittsburgh \$/long ton(gw)
2000:				
Average for week ending:				
April 7	4.56-4.79	9,848.000	4.467	990-1,010
April 14	4.37-4.59	9,657.500	4.381	990-1,010
April 21	4.42-4.57	9,587.500	4.349	990-1,010
April 28	4.49-4.64	9,804.375	4.447	990-1,010
May 5	4.59-4.70	9,933.750	4.506	940-950
May 12	4.60-4.70	9,937.000	4.507	940-950
May 19	4.70-4.93	10,454.500	4.742	940-950
May 26	4.86-4.92	10,470.000	4.749	940-950
June 2	4.28-4.92	9,429.375	4.277	940-950
June 9	4.06-4.67	8,916.000	4.044	940-950
June 16	3.84-3.96	8,266.000	3.749	940-950
June 23	3.63-3.83	7,973.000	3.616	940-950
June 30	3.66-3.77	8,048.000	3.651	940-950
Average for month of:				
April	4.460	9,727.500	4.412	1,000
May	4.688	10,130.238	4.595	945
June	3.894	8,410.909	3.815	945

Source: Platt's Metals Week and American Metal Market.

1997-2000 AVERAGE MONTHLY PRICES

(Derived from Metals Week and American Metal Market quotations)

